WMO VLab Regional Focus Group
of the Americas and Caribbean

20-year Aniversary!

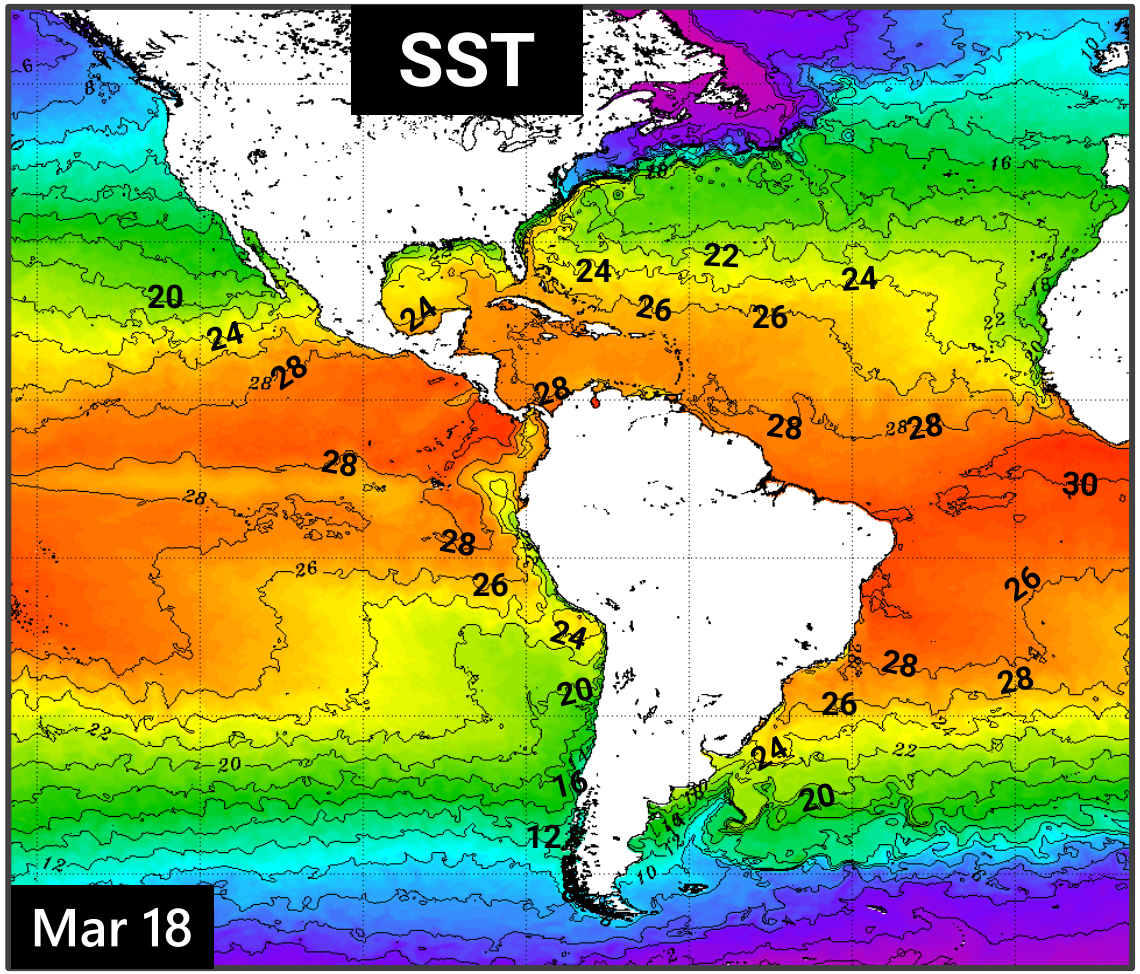
Since 2004

Climate Indices

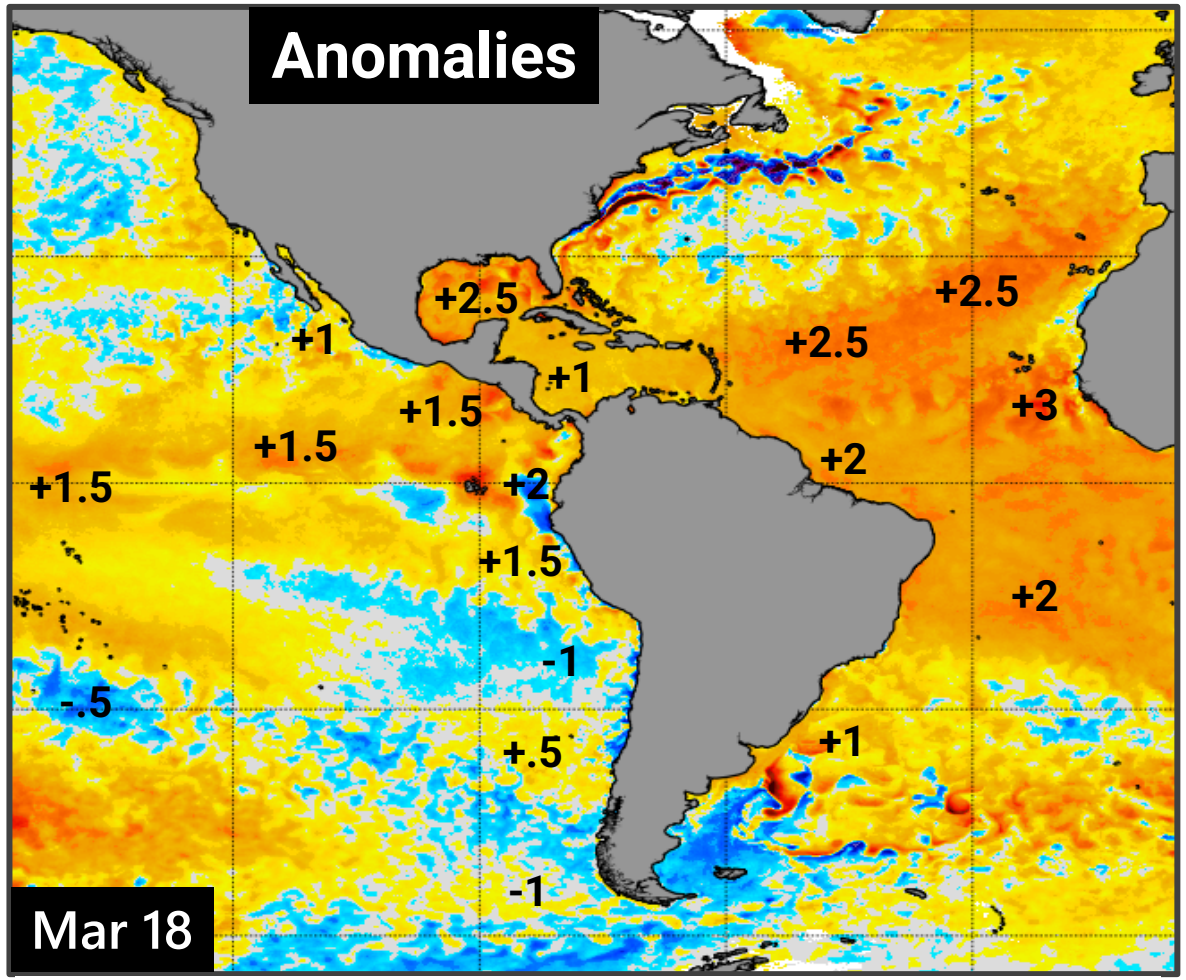
Current Status and Projections

Wednesday 20 March 2024

Sea Surface Temperature (SST)



NOAA OSPO https://www.ospo.noaa.gov/data/sst/contour/global_small.c.gif

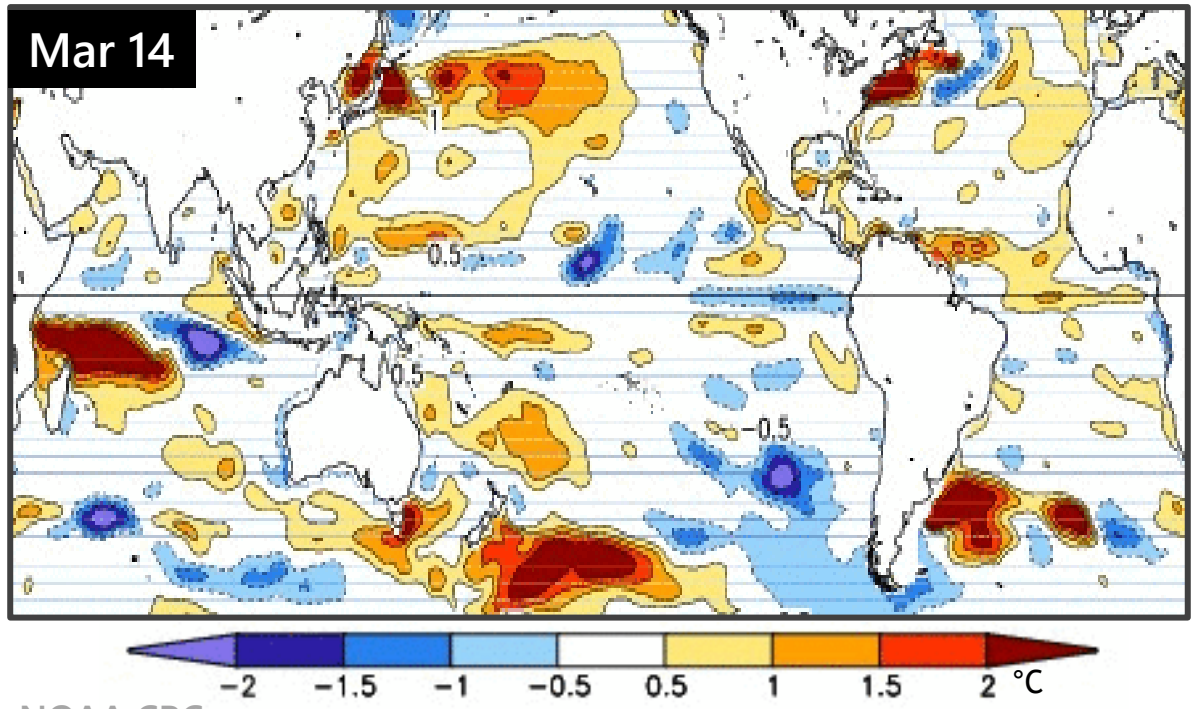


NOAA Coral Reef Watch https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

Top Layer Temperature Anomaly

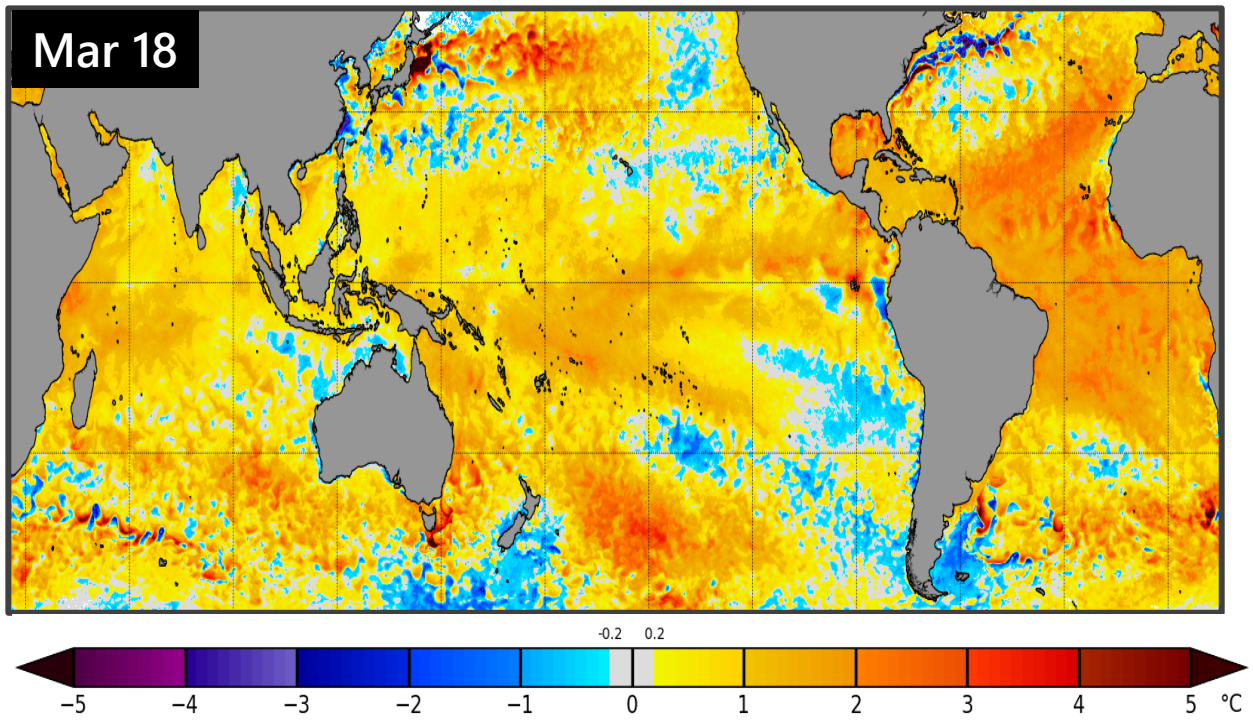
Anomalies in a layer take longer to dissipate than superficial ones, and can last for weeks.

Top 300m-Layer Anomaly



NOAA CPC
Source: CPC GODAS, https://www.cpc.ncep.noaa.gov/products/GODAS/

Surface Anomaly



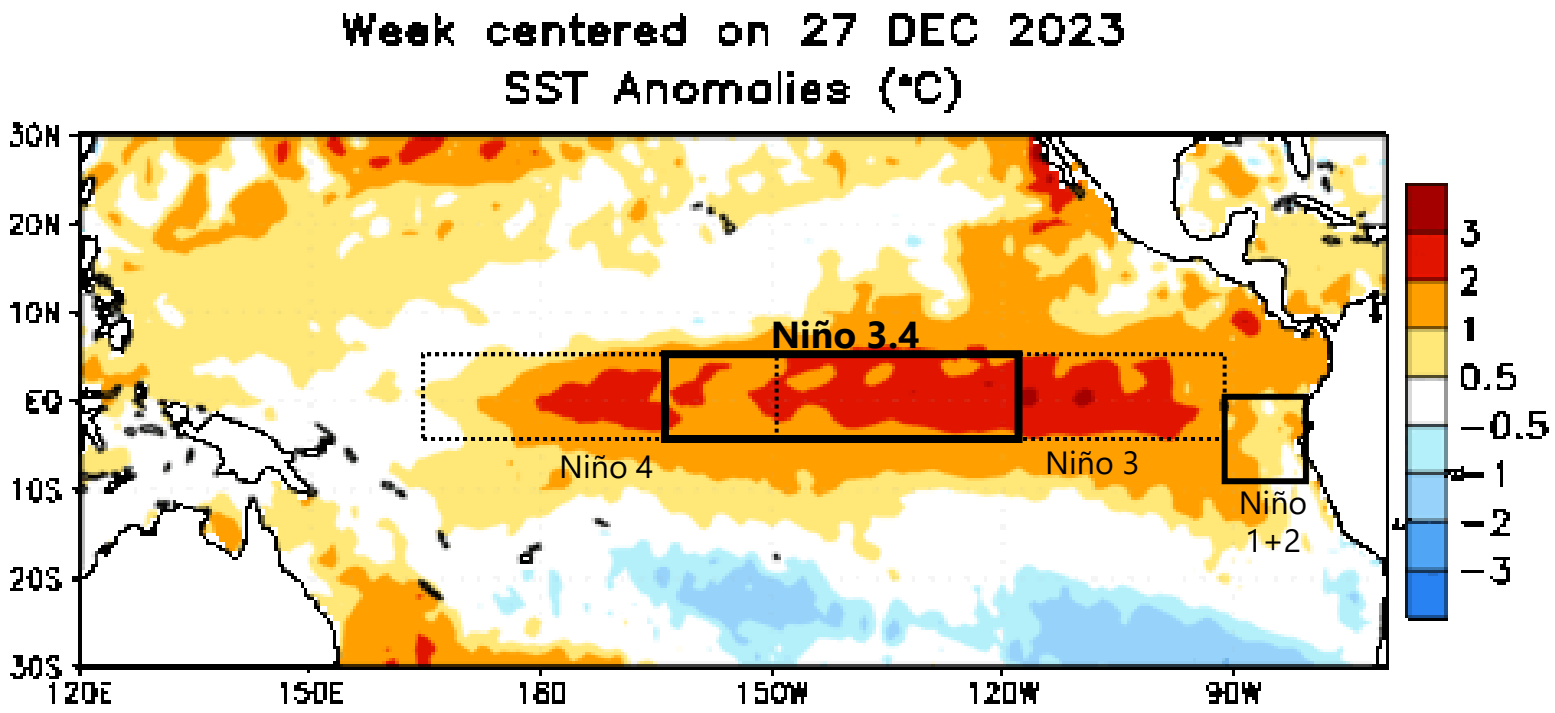
NOAA Coral Reef Watch
https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

El Niño-Southern Oscillation (ENSO)

CPC Official Statement

El Niño Advisory / La Niña Watch

- El Niño conditions are observed.*
- Equatorial sea surface temperatures (SSTs) are above average across the central and eastern Pacific Ocean.
- The tropical Pacific atmospheric anomalies are consistent with El Niño.

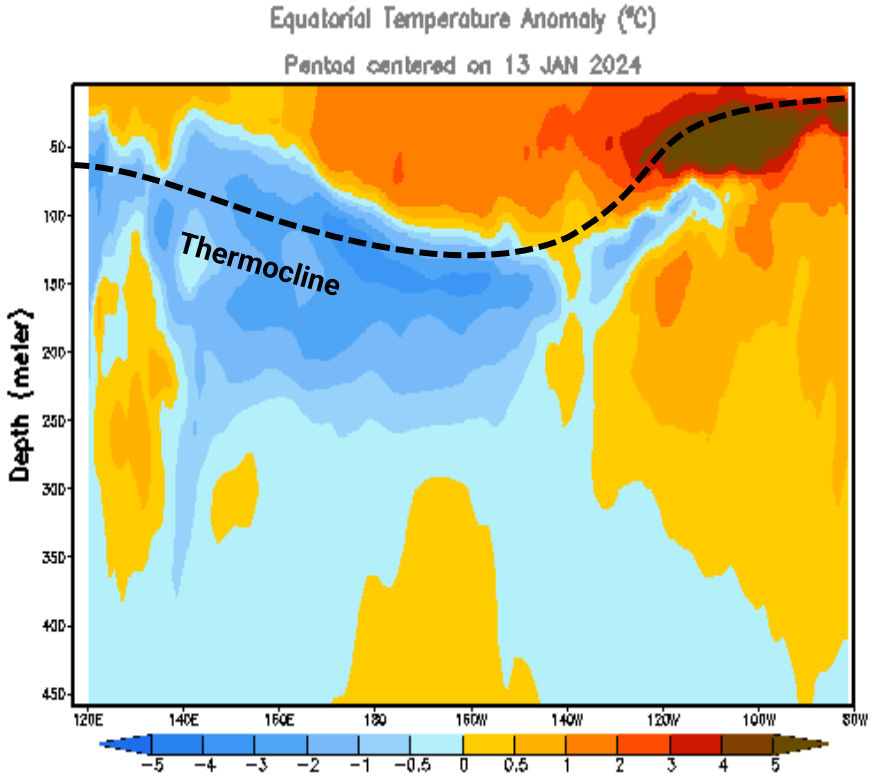


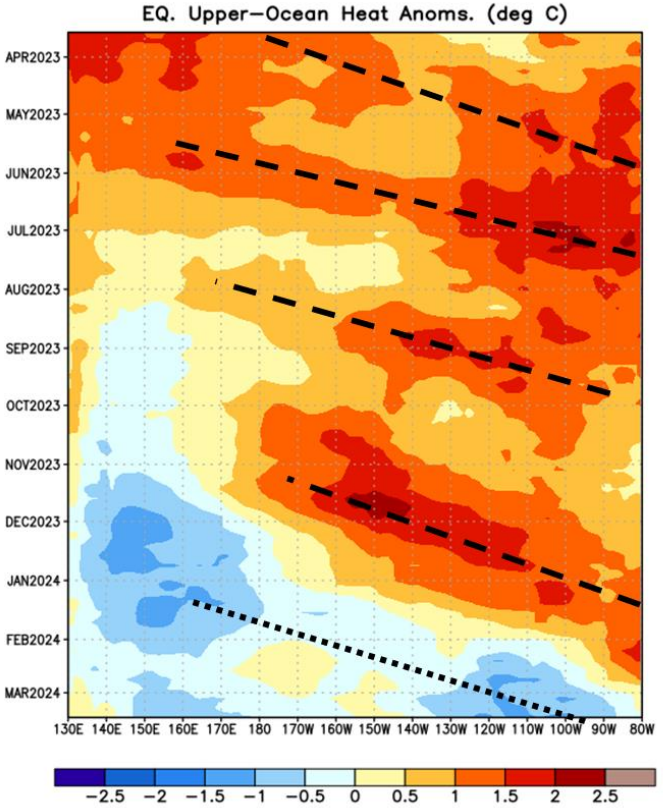
TAKEAWAYS

- **Warm anomalies are rapidly collapsing.**
- **Still El Niño conditions, but rapidly transitioning into neutral-type anomalies.**

ENSO: Oceanic Kelvin Waves

Temperature Anomalies with Depth and Heat Content Anomalies





TAKEAWAYS

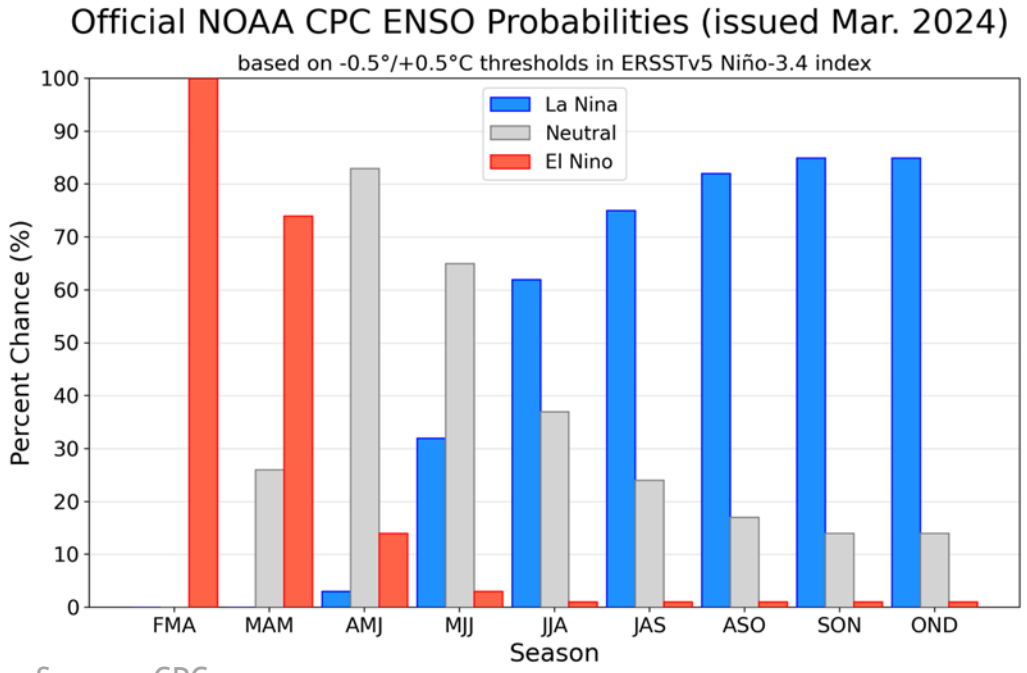
- Cool (upwelling) Kelvin continues to move into the South American coast.
- No warm Kelvin trails, which is consistent with a well defined cooling trend and rapid transition away from El Niño conditions.

Source: CPC

ENSO Outlook

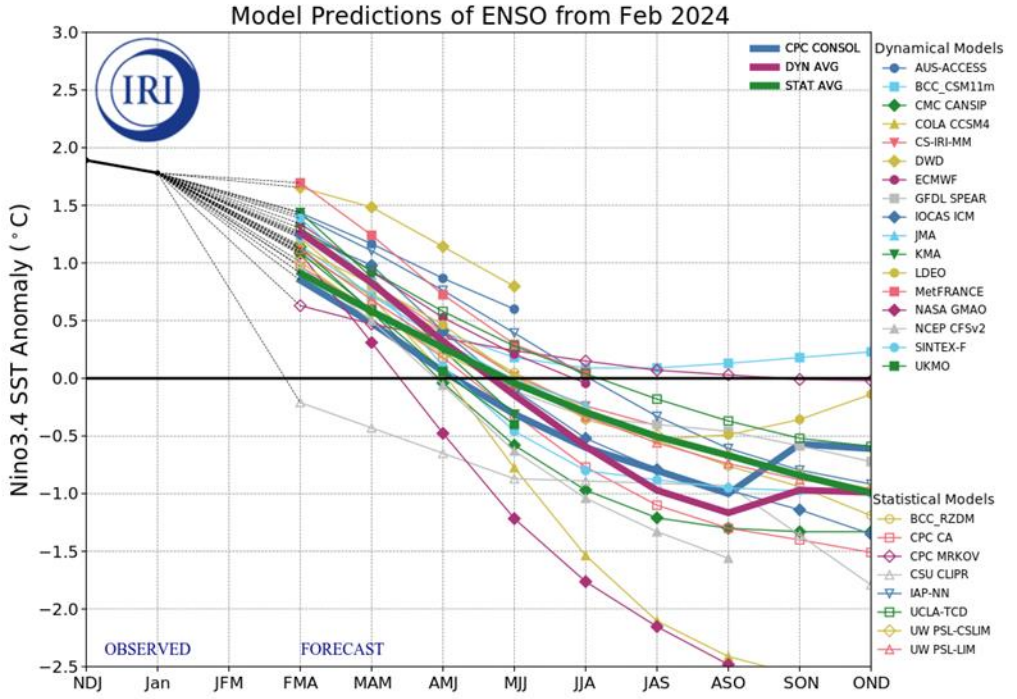
A transition from El Niño to ENSO-neutral is likely by April-June 2024 (83% chance), with increasing odds of La Niña developing in June-August 2024 (62% chance).*

Probabilistic Forecast



Source: CPC

IRI/CPC Dynamic Models



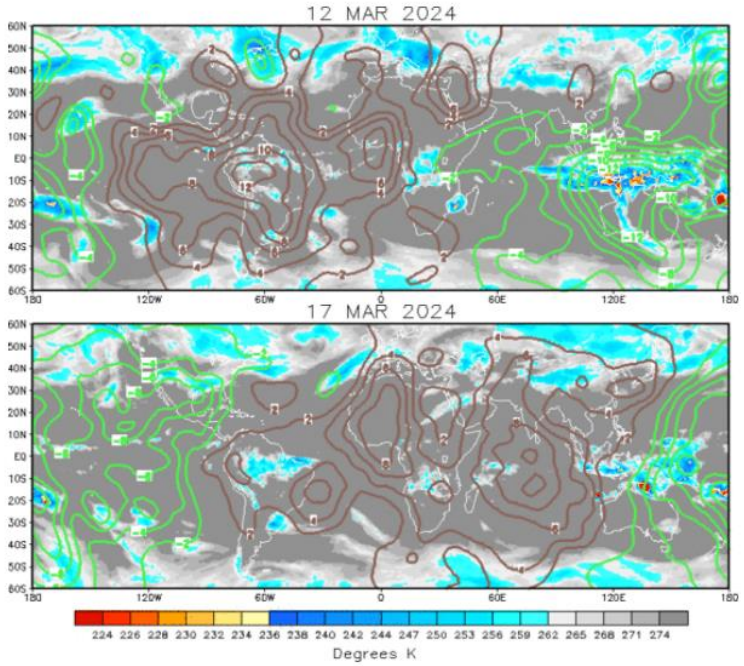
Source: IRI, updated 19 Feb 2024

Madden-Julian Oscillation (MJO)

Current Observations:

- The MJO is organizing rapidly and slowing down.
- Wave-1 mode is prevalent.
- Upper divergent over the Pacific, entering the Americas this week.

Velocity Potential and Brightness Temperature (shaded)



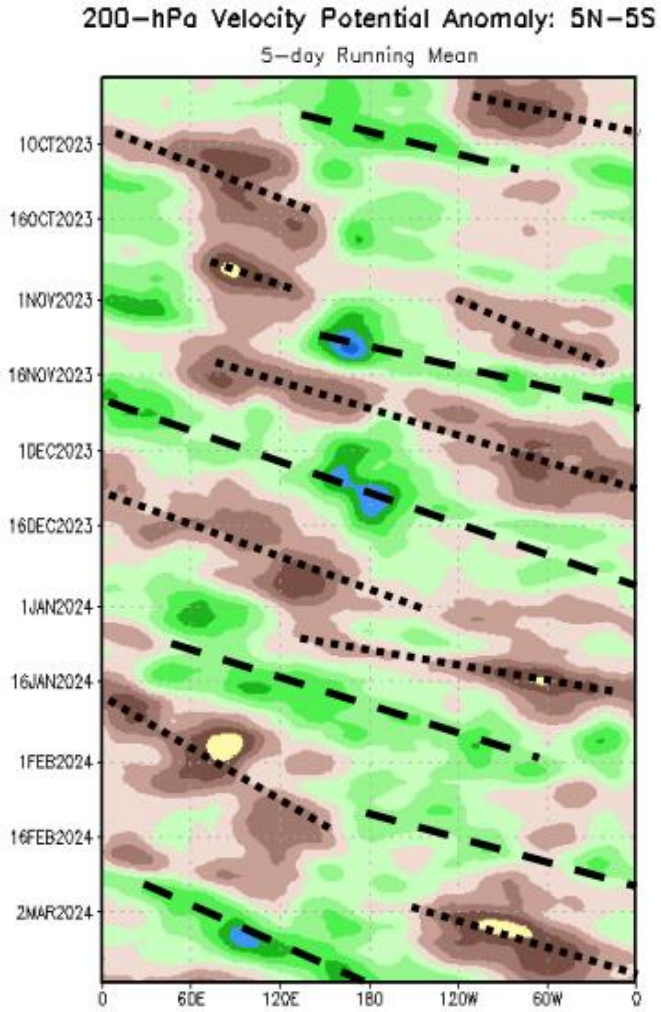
Mar 12

Mar 17

Source: CPC

Favors rain storms

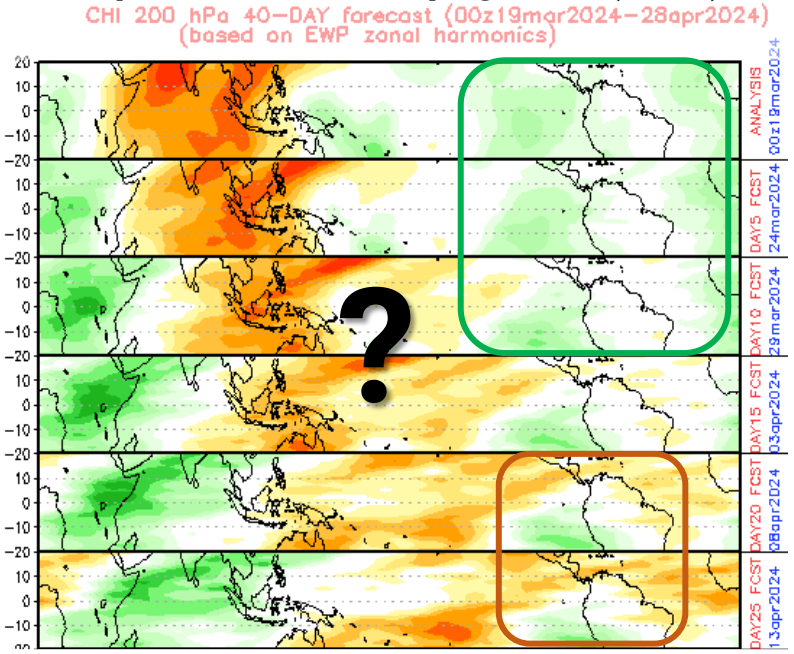
Favors limited rainfall



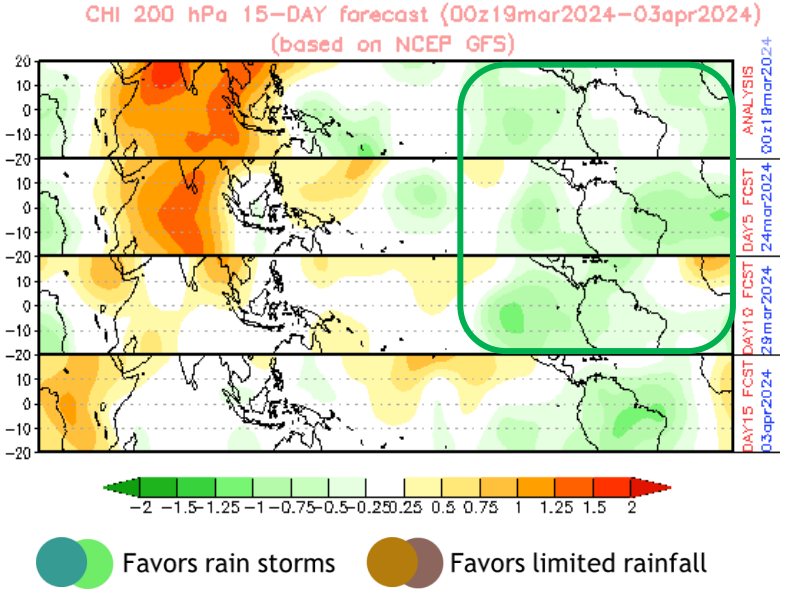
Source: CPC

MJO Forecasts

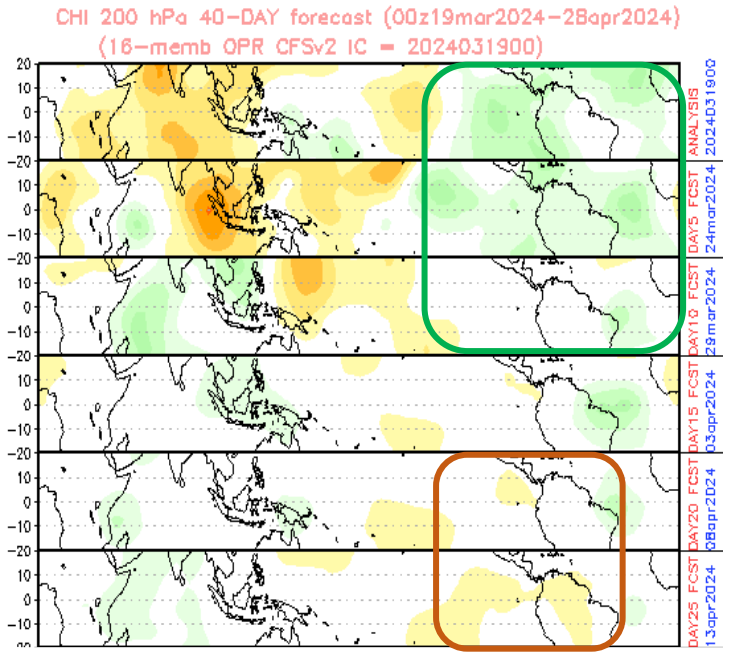
Empirical Wave Propagation (EWP)



Global Forecast System (GFS)



Climate forecast System (CFS)



Source: CPC

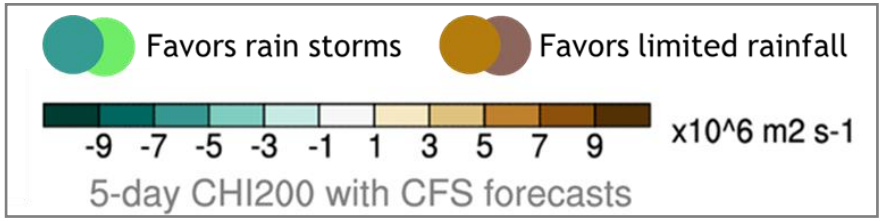
TAKEAWAYS

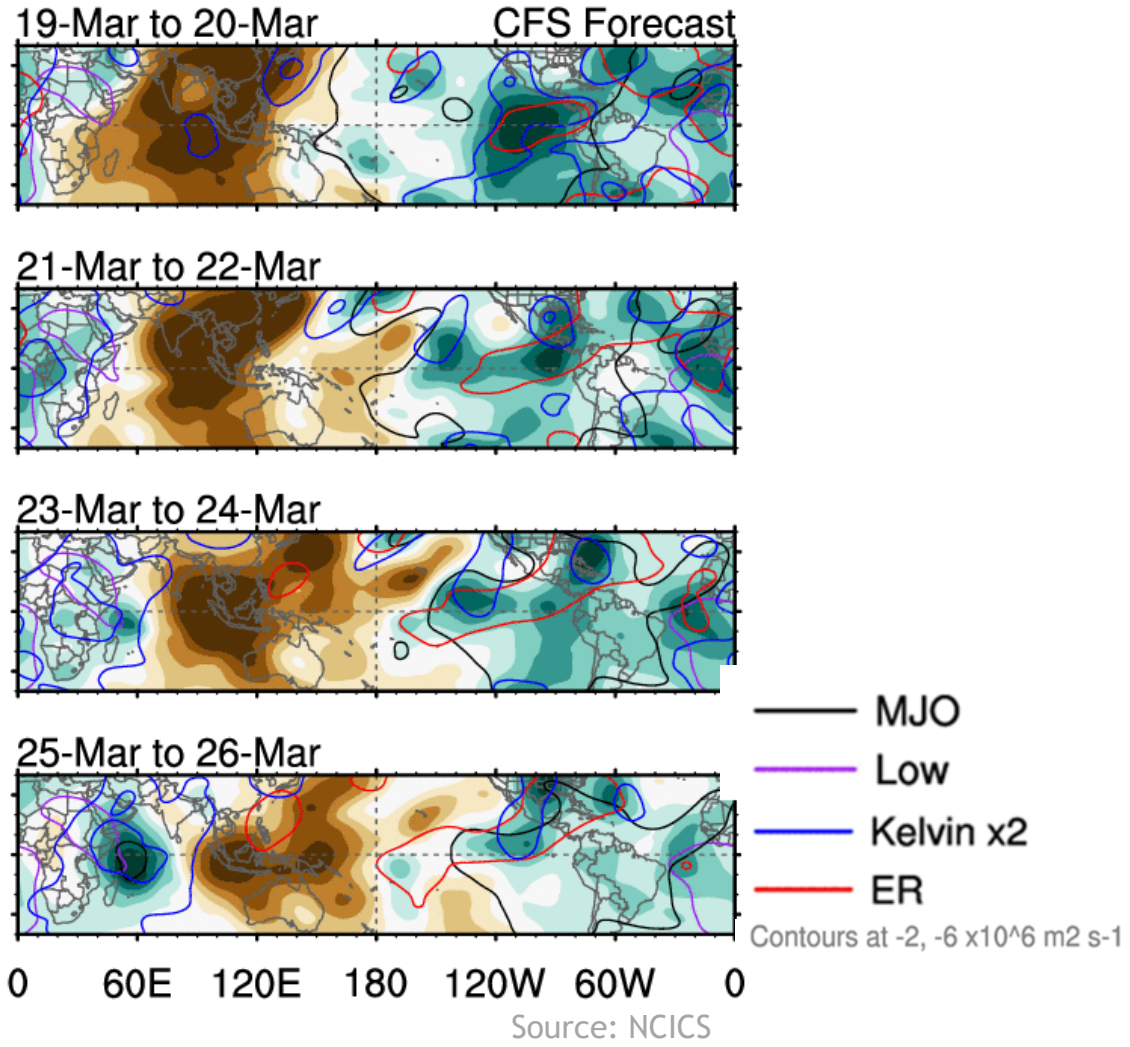
- Models are not in great agreement. The CFS and GFS are more in tune.
- Upper divergent (wet) this week. Then drier, especially through mid-March.

MJO and Upper Tropospheric Waves

Outlook for the next few days:

- Several Kelvin waves embedded in upper divergent MJO.
- Kelvin to stimulate convection in SE Brasil through March 23.
- Kelvin to stimulate convection in Cuba/Bahamas this weekend.

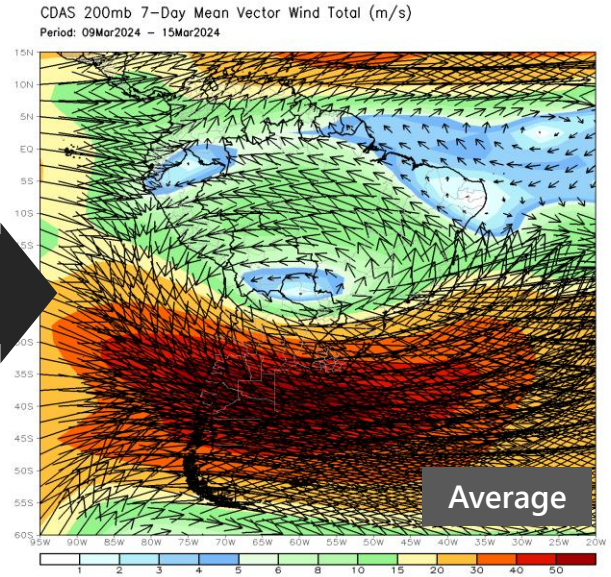


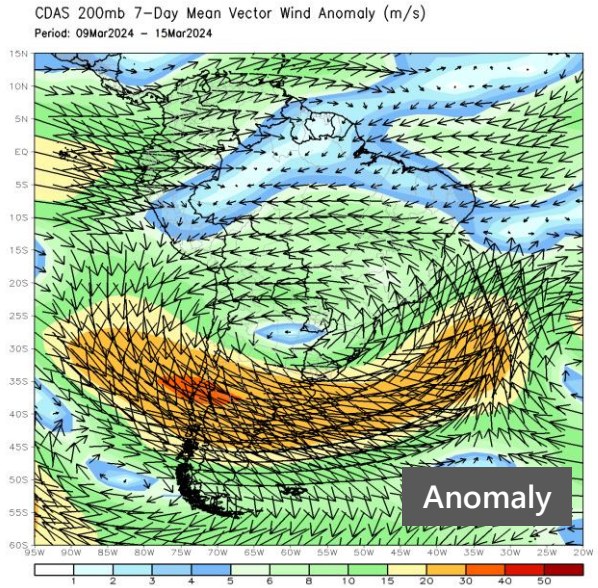


Source: NCICS

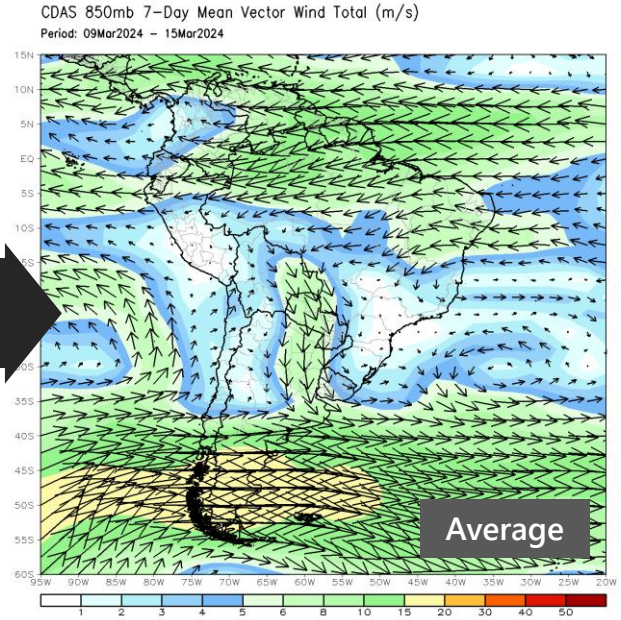
South America, Last 7 Days

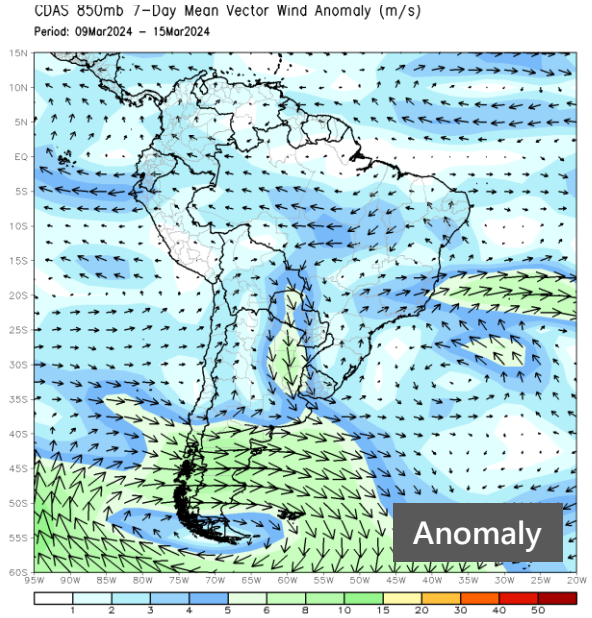
200 hPa Flow



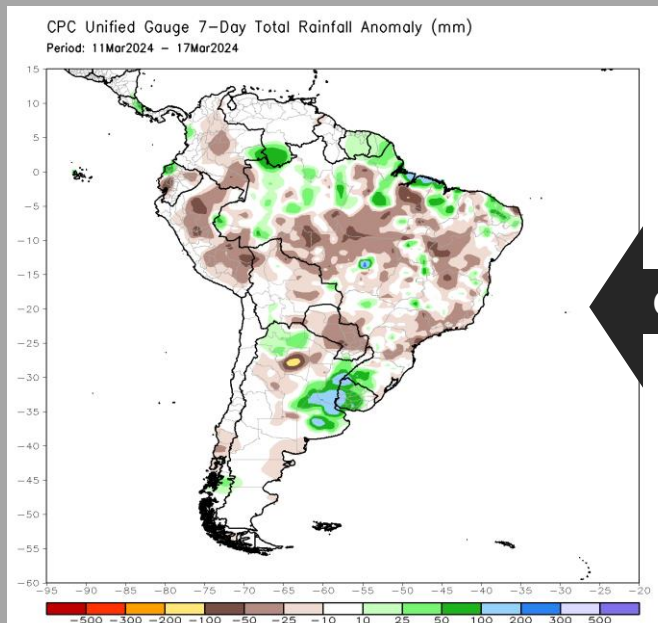


850 hPa Flow

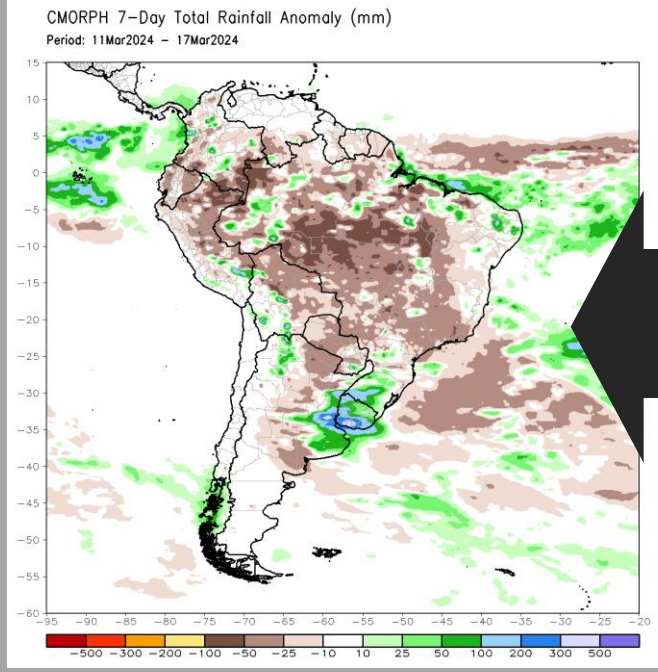




Rainfall Anomalies



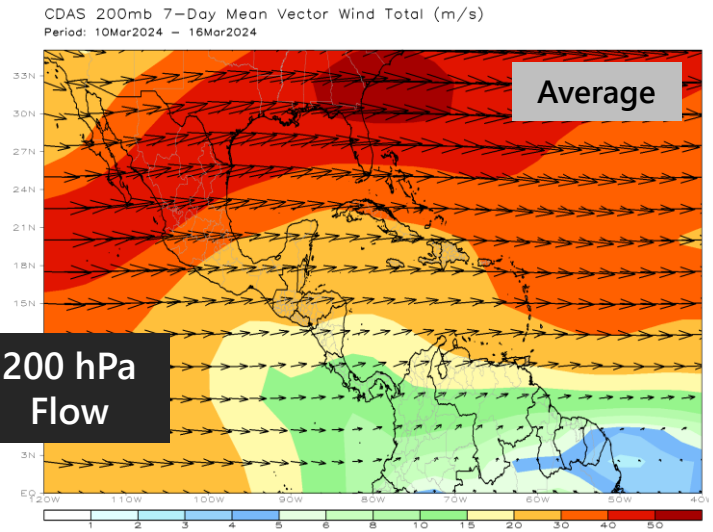
Gauges

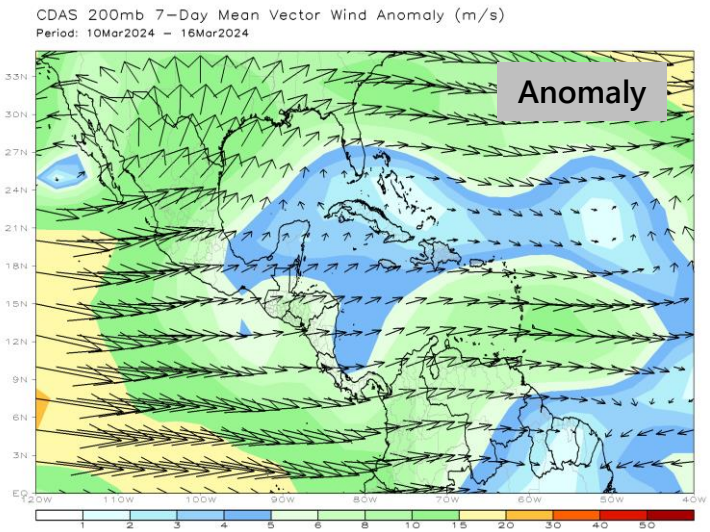


Satellite – Estimated (CMORPH)

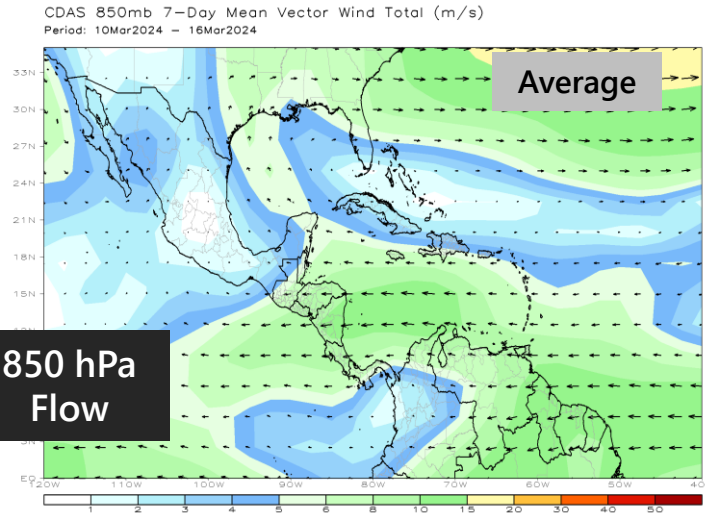
Caribbean and Central America, Last 7 Days

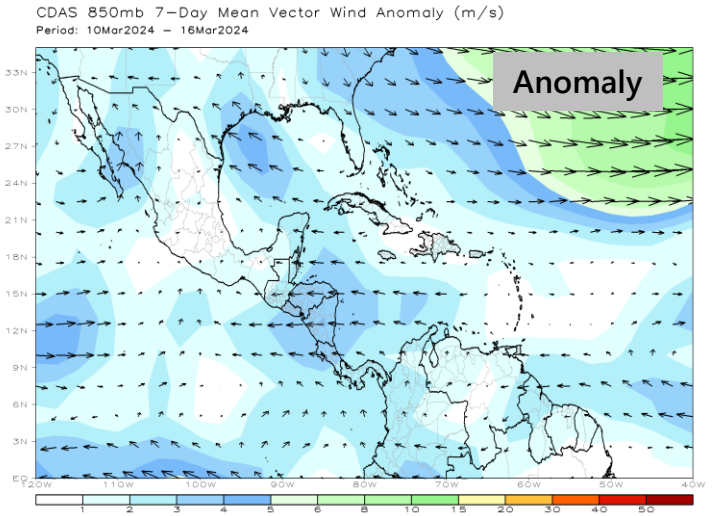
200 hPa Flow





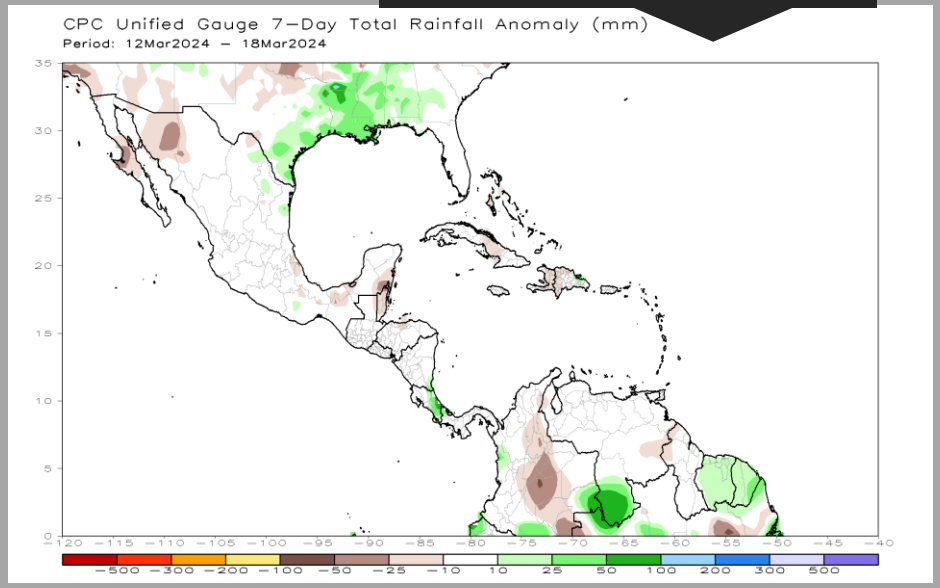
850 hPa Flow





Rainfall Anomalies

Gauges (CPC)



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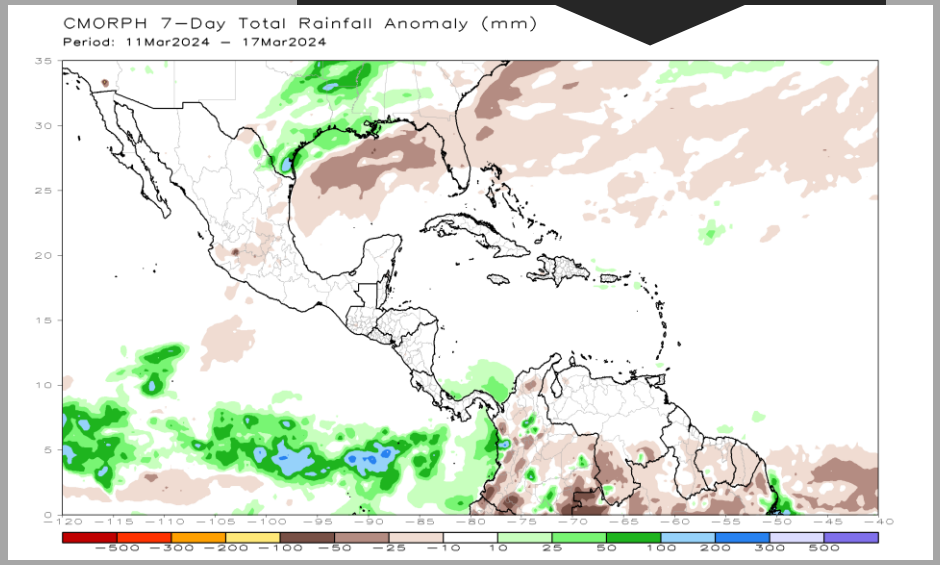

¡Gracias! Thank you! ¡Obrigado!

Next Session: To be discussed

Recorded sessions and more information available at:
https://rammb2.cira.colostate.edu/training/rmtc/focusgroup/

For enrolling in the distribution list for RFG announcements, please send an email to jose.galvez@noaa.gov or bernie.connell@colostate.edu